

**Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382**

Draft

**AIR QUALITY PERMIT
Issued under 401 KAR 52:020**

Permittee Name: MeadWestvaco Virginia Corporation, Wickliffe
Mailing Address: 2025 Beech Grove Road
Wickliffe, Kentucky 42087

Source Name: MeadWestvaco Wickliffe Carbon
Mailing Address: 2025 Beech Grove Road
Wickliffe, KY 42087

Source Location: Same as above.

Permit Number: V-06-009
Source A. I. #: 59
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Regional Office: Paducah Regional Office
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**John S. Lyons, Director
Division for Air Quality**

TABLE OF CONTENTS

SECTION	ISSUANCE	PAGE
A. PERMIT AUTHORIZATION	Renewal, skm	1
B. EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS		2
C. INSIGNIFICANT ACTIVITIES		31
D. SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS		33
E. SOURCE CONTROL EQUIPMENT REQUIREMENTS		33
F. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS		35
G. GENERAL PROVISIONS		38
H. ALTERNATE OPERATING SCENARIOS		41
I. COMPLIANCE SCHEDULE		41

	Permit type	Log or Activity#	Complete Date	Issuance Date	Summary of Action
V-99-009R1	Initial Issuance		3/10/99	March 10, 1999	Initial Operating Permit
V-06-009	Renewal		11/29/05	---	Permit Renewal

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**INDEX OF EMISSION POINTS LISTED IN SECTION B**

<u>Emission Point</u>	<u>Description</u>	<u>Page</u>	<u>Stack</u>
Woodbase Plant Sources:			
EP010	Woodbase Carbon Sawdust Delivery/Handling	3	Fugitive
EP020	Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System	4	A
EP030	Woodbase Drying/Screening/Grinding/Packaging/ Specialty Thermal Carbon Process	10	B
EP040	Woodbase Bulk Storage Tanks and Rail Shipment	16	C
Catalyst Plant Sources:			
EP070	Catalyst Plant Pre-heaters and Reactors	19	A
EP080	Catalyst Plant Storage and Feed System, Product Finishing, Storage and Shipping	24	A
EP150	Lime Storage and Feed System	27	B
EP001	Steam Generating Package Boiler (Leased)	29	None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP010 Woodbase Carbon Sawdust Delivery/Handling

The following operations are sources of fugitive dust emissions included:

- Delivery truck traffic
- Delivery truck dump
- Reclaim by front end loader
- Reclaim hopper
- Sawdust screening
- Reject sawdust truck loading
- Transfer to sawdust feed tank
- Sawdust storage pile wind erosion

APPLICABLE REGULATIONS:

401 KAR 51:017 applies to the PM₁₀ emissions.
401 KAR 63:010 applies to the fugitive dust emissions.

1. Operating Limitations :

All reasonable measures shall be taken to prevent particulate matter from becoming airborne at all times [401 KAR 63:010, Section 3 (1) and 401 KAR 51:017]. These measures shall include, but not be limited to the following:

- a. Sawdust handling and delivery: Use of enclosures and/or wet suppression.
- b. Plant roadways: Use of wet suppression, surface treatment, sweeping, speed control and/or paving.

2. Emission Limitations : None

3. Testing Requirements: None

4. Specific Monitoring Requirements: None

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the amount of sawdust delivered to the source premises each calendar month (tons/month).

6. Specific Reporting Requirements: None

7. Specific Control Equipment Operating Conditions : None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP020 Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System (vented through common Stack A):

Emissions Sources:

- a. Natural gas fired No.12 Activation Kiln (70 mmBtu/hr) -activation process and kiln natural gas combustion emissions
- b. Natural gas fired Afterburner (130 mmBtu/hr) - natural gas combustion emissions

Control Devices:

- a. Afterburner (VOC, CO)
- b. Wet Fan, Reverse Jet Scrubber, and Brink Mist Eliminator in series (PM₁₀, PT)

Other Devices:

- a. Activation Kiln - Low NO_x burner
- b. Afterburner - Low NO_x burner

APPLICABLE REGULATIONS:

- 401 KAR 51:017 applies to carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOC), and PM₁₀ emissions.
- 401 KAR 59:010 applies to the visible emissions.
- 40 CFR 64, Compliance Assurance Monitoring (CAM) applies to PM₁₀, CO, and VOC emissions.

1. Operating Limitations :

- a. The sawdust feed rate to the activation kiln shall not exceed 30,000 lb/hr (corrected to 42% moisture by weight) or 17,400 lb/hr (dry weight basis) averaged over any 3-hour period.
- b. The afterburner shall control emissions of volatile organic compounds and carbon monoxide and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the activation kiln is in operation. The activation kiln is considered in operation any time sawdust is being conveyed to the activation kiln.
- c. The wet fan, reverse jet scrubber, and Brink mist eliminator shall control emissions of PM₁₀ and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the activation kiln is in operation.

Compliance Demonstration Method:

- a. The permittee shall monitor the sawdust feed rate to the activation kiln for every hour of operation. The feed rate shall be recorded as a rolling 3-hour average.
- b. The permittee shall record the moisture content of the sawdust every 4 hours.
- c. The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when the activation kiln is in operation but the afterburner, wet fan, reverse jet scrubber, or Brink mist eliminator are not.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP020 Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System (continued)

2. Emission Limitations :

- a. Mass Emission (BACT) Limit - Pursuant to 401 KAR 51:017, Section 8:
 - i. Emissions of carbon monoxide shall not exceed 82.74 lb/hr.
 - ii. Emissions of nitrogen oxides shall not exceed 41.60 lb/hr.
 - iii. Emissions of particulate emissions (including PM₁₀) shall not exceed 14.60 lb/hr.
 - iv. Emissions of volatile organic compounds (VOC) shall not exceed 122.69 lb/hr.
 - v. Emissions of NO_x from the activation kiln and afterburner natural gas burners shall not exceed 0.130 lb/mmBtu and 0.3 lb/mmBtu, respectively.
 - vi. The above limits are based on a 30-day average.
- b. Opacity Limit - Pursuant to 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack A shall not equal or exceed 20 percent.

Compliance Demonstration Method:

- a. Mass Emission Limit:
 - i. For CO/VOC/NO_x/PM₁₀: Actual Emission
Rate (lbs/hr) = [Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds CO/VOC/NO_x/PM₁₀ per ton of dry sawdust feed)] x [Tons of dry sawdust feed to the activation kiln in the month] ÷ [Hours of operation in the month]
 - ii. For NO_x from the burners: Actual Emission
Factor (lbs/mmBtu) = Refer to Section D, 3.
- b. Opacity Limit:
 - i. Compliance with the opacity limitation is demonstrated by normal operation of the wet fan, reverse jet scrubber, and Brink mist eliminator.
 - ii. If the activation kiln is in operation during any period of malfunction of the wet fan, reverse jet scrubber, or Brink mist eliminator, the permittee shall determine compliance through visual inspection, EPA Method 9 testing if emissions are seen, and recordkeeping, as required by Item e. under **5. Specific Recordkeeping Requirements below.**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**EP020 Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System
(continued)****3. Testing Requirements:**

- a. As noted below, pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted within 6 months of issuance of the final permit.
 - 1) EPA Reference Method 5 or equivalent shall be performed to determine the amount of PM emissions per hour and per ton of dry sawdust feed to the activation kiln.
 - 2) EPA Reference Method 7 or equivalent shall be performed to determine the amount of NO_x emissions per hour and per ton of dry sawdust feed to the activation kiln.
 - 3) EPA Reference Method 18, Method 25A, or equivalent shall be performed to determine the amount of VOC emissions per hour and per ton of dry sawdust feed to the activation kiln.
 - 4) EPA Reference Method 10 or equivalent shall be performed to determine the amount of CO emissions per hour and per ton of dry sawdust feed to the activation kiln.
- b. See General Condition D.1.

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Hourly sawdust feed rate.
- b. Sawdust moisture content.
- c. Monthly hours of operation (i.e., time during which sawdust conveyed to activation kiln).
- d. Pursuant to 40 CFR 64, the following monitoring information is included in the facility CAM plan:
 - i. The afterburner outlet temperature is the indicator and measured using thermocouples with a temperature range from -328 to 2300°F. The temperature for sawdust feed rates up to and including 13,800 lbs/hr is designed to be equal to or greater than 1600°F. The temperature for sawdust feed rates between 13,801 and 15,300 lbs/hr is designed to be equal to or greater than 1650°F. The temperature for sawdust feed rates between 15,301 and 17,400 lbs/hr is designed to be equal to or greater than 1660°F.
 - ii. Pursuant to 40 CFR 64.3(b), the thermocouples will measure afterburner outlet temperature at 1-minute intervals. The Distribution Control System records the 1-minute sample data and calculates the rolling 3-hour averages for each minute. The minimum design tolerance of the thermocouple is (+) or (-) 3.96°F or (+) or (-) 0.75% of the temperature measured in degrees Celsius, whichever is greater. The data collection system (DCS) has a minimum resolution of 0.2°F. Accuracy of the thermocouples will be verified weekly by referencing the readings on a

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP020 Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System (continued)

second, or redundant, thermocouple probe in the same location.

- iii. All thermocouples will be calibrated to their working range, traceable to NIST standards, and replaced as required. A 3-hour rolling averaging period, excluding any periods of process downtime will be used to assess compliance with the indicator range.
- e. The permittee shall maintain, calibrate and operate according to manufacturer's specification, monitoring devices for the continuous measurement of:
 - i. The liquid flow rate to the wet fan.
 - ii. The differential static pressure across the reverse jet scrubber.
 - iii. The differential static pressure across the Brink mist eliminator.

5. Specific Recordkeeping Requirements:

The permittee shall keep records of the following information:

- a. Hourly (3-hour average) sawdust feed rate.
- b. Sawdust moisture content.
- c. Monthly hours of operation of the activation kiln.
- d. Continuous records of the following information:
 - i. The temperature at the outlet of the afterburner.
 - ii. The liquid flow to the wet fan.
 - iii. The differential static pressure across the reverse jet scrubber.
 - iv. The differential static pressure across the Brink mist eliminator.
- e. During all periods of malfunction of either the wet fan, reverse jet scrubber, and/or Brink mist eliminator, if the activation kiln is in operation, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from Stack A;

If visible emissions are not observed during a malfunction, then no further visual observations are required. If emissions are observed, the permittee shall perform the following:

- ii. The permittee shall perform a Method 9 reading for Stack A. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.
- f. All maintenance activities performed at the afterburner, wet fan, reverse jet scrubber, and Brink mist eliminator.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP020 Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System (continued)

6. **Specific Reporting Requirements:** See General Condition F.5.

7. **Specific Control Equipment Operating Conditions :**

For the afterburner:

- a. The afterburner shall operate at a minimum temperature of 1600°F (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average temperature in the afterburner was below the minimum specified.

For the wet fan:

- a. The wet fan shall be operated at a minimum flow rate of 35 gpm of liquid to the fan (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average flow rate of liquid to the fan was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP020 Woodbase Carbon Acid/Mixing, Activation Kiln, and Acid Recovery System (continued)

7. Specific Control Equipment Operating Conditions:(continued)

For the reverse jet scrubber:

- a. The reverse jet scrubber shall be operated at a minimum differential pressure drop of 30 inches of water (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across the reverse jet scrubber was below the minimum specified.

For the Brink mist eliminator:

- a. The Brink mist eliminator shall be operated at a maximum differential pressure drop of 12 inches of water (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across the Brink demister was above the maximum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP030 Woodbase Drying/Screening/Grinding/Packaging/Specialty Thermal Carbon (Vented to common Stack B):

Emission Sources:

- a. Natural gas fired No.11 Drying Kiln (40 mmBtu/hr): Process and combustion emissions
- b. Screening, grinding, and packaging operations: Process emissions
- c. Specialty Thermal Carbon Process:
Process and fugitive emissions

Control Devices:

- a. Drying kiln - Baghouse (PM₁₀), Low NO_x burners (NO_x)
- b. Screening, grinding, and packaging operations - Cartridge filter (PM₁₀)
- c. Specialty Thermal Carbon Process - Five (5) cartridge filters (PM₁₀)

APPLICABLE REGULATIONS:

- a. 401 KAR 51:017 applies to the carbon monoxide, nitrogen oxides, volatile organic compounds (VOC) and PM₁₀ emissions from the Drying Kiln and Screening/Grinding/Packaging Operations.
- b. 401 KAR 59:010 applies to the visible emissions from all the emission sources listed above.
- c. 401 KAR 59:010 applies to the particulate matter (PM/PM₁₀) emissions from the Specialty Thermal Carbon Process.
- d. 401 KAR 63:010 applies to the fugitive emissions from the Specialty Thermal Carbon Process.
- e. 40 CFR 64, Compliance Assurance Monitoring (CAM) applies to PM₁₀ emissions.

1. Operating Limitations :

- a. Drying kiln - The baghouse on the drying kiln shall control emissions of PM₁₀ and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the drying kiln is in operation. The drying kiln is considered in operation any time carbon is being conveyed to the drying kiln [401 KAR 51:017].
- b. Screening/grinding/packaging - The cartridge filter shall control emissions of PM₁₀ and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all time the screening, grinding, and packaging processes are in operation. The screening, grinding, and packaging processes are considered in operation any time carbon is being conveyed to or from these processes [401 KAR 51:017].

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP030 Woodbase Drying/Screening/Grinding/Packaging: (continued)

1. Operating Limitations : (continued)

- c. Specialty thermal carbon process - All reasonable measures shall be taken to prevent particulate matter from becoming airborne at all times from the specialty thermal carbon process [401 KAR 63:010, Section 3 (1)]. These measures shall include but are not limited to:
 - i. Use of enclosed conveyors to transport carbon.
 - ii. Enclosure of the STC process, except for the associated product and fines storage tanks and the truck loading area.

Compliance Demonstration Method:

- a. The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when the drying kiln is in operation but the baghouse is not.
- b. The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when the screening, grinding, and packaging processes are in operation but the cartridge filter is not.
- c. For compliance with the fugitive emission operating limitations, refer to Section F for compliance and malfunction reporting.

2. Emission Limitations :

For the *drying kiln*

- a. Mass Emission (BACT) Limit - Pursuant to 401 KAR 51:017:
 - i. Carbon monoxide emissions shall not exceed 5.64 lb/hr.
 - ii. Nitrogen oxides emissions shall not exceed 4.0 lb/hr and 0.10 lb/mmBtu.
 - iii. Particulate emissions (including PM₁₀) shall not exceed 5.25 lb/hr.
 - iv. Volatile organic compound emissions shall not exceed 1.0 lb/hr.
 - v. The above limits are based on a monthly average.
- b. Opacity Limit - Pursuant to 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack B shall not equal or exceed 20 percent.

For the *screening/grinding/packaging*:

- c. Mass Emission (BACT) Limit - Pursuant to 401 KAR 51:017, emissions of particulate matter (including PM₁₀) shall not exceed 1.5 lb/hr (30-day average).
- d. Opacity Limit - Pursuant to 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack B shall not equal or exceed 20 percent.

For the *Specialty Thermal Carbon Process*:

- e. Mass Emission Limit - Pursuant to 401 KAR 59:010, Section 3 (2), emissions of particulate matter (including PM₁₀) shall not exceed 3.2 lb/hr (30-day average). The emission rate specified here is lower than that allowed by 59:010 (based on the process weight rate for the STC process) to preclude applicability of 51:017. This is not a synthetic minor since the permittee is required to use cartridge filters to comply with the 59:010 limit which effectively limits the potential particulate matter emissions from the STC process below 3.2 lb/hr.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP030 Woodbase Drying/Screening/Grinding/Packaging: (continued)

2. Emission Limitations: (continued)

- f. Opacity Limit - Pursuant to 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack B shall not equal or exceed 20 percent.

Compliance Demonstration Method:

For the *drying kiln*

a. Mass Emission Limit:

- i. For CO/PM₁₀/VOC/NO_x: Actual Emission

$$\text{Rate (lbs/hr)} = \frac{[\text{Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds CO/PM}_{10}\text{/VOC/NO}_x\text{ per ton of product produced)}] \times [\text{Tons of dry product produced in the month}]}{[\text{Hours of operation in the month}]}$$

- ii. For NO_x: Actual Emission

$$\text{Factor (lbs/mmBtu)} = \text{Compliance based on AP-42 emission factor for combustion of natural gas.}$$

b. Opacity Limit:

- i. Compliance with the opacity limitation is demonstrated by normal operation of the baghouse.
- ii. If the drying kiln is in operation during any period of malfunction of the baghouse, the permittee shall determine compliance through maintenance of the records required by Item f. under **5. Specific Recordkeeping Requirements below.**

For the *screening/grinding/packaging operations:*

c. Mass Emission Limit:

For PM₁₀: Actual Emission

$$\text{Rate (lbs/hr)} = \frac{[\text{Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds PM}_{10}\text{ per ton of product produced)}] \times [\text{Tons of dry product produced in the month}]}{[\text{Hours of operation in the month}]}$$

d. Opacity Limit:

- i. Compliance with the opacity limitation is demonstrated by normal operation of the cartridge filter.
- ii. If the screening/grinding/packaging system is in operation during any period of malfunction of the cartridge filter, the permittee shall determine compliance through visual inspection, EPA Method 9 testing if emissions are seen, and recordkeeping required by Item f. under **5. Specific Recordkeeping Requirements below.**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP030 Woodbase Drying/Screening/Grinding/Packaging: (continued)

For the *Specialty Thermal Carbon Process*:

e. Mass Emission Limit:

i. For PM: Actual Emission

Rate (lbs/hr) = [Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds PM per ton of product produced)] x [Tons of dry product produced in the month] ÷ [Hours of operation in the month]

- ii. Specialty thermal carbon storage tanks- The cartridge filters on the product storage tanks shall control emissions of PM/PM10 and be operated properly in accordance with manufacture's specifications and /or standard operating procedures at all times specialty thermal carbon (STC) is transported to or from the product storage tank.
- iii. Specialty thermal carbon process fines storage tanks/loading station- The cartridge filter on the fines storage tanks/loading station shall control emissions of PM/PM10 and be operated properly in accordance with manufacturer's specifications and /or standard operating procedures at all times STC process fines are transported to or from the fines storage tanks or the loading station is used.

f. Opacity Limit:

- i. Compliance with the opacity limitation is demonstrated by normal operation of the cartridge filters.
- ii. If the STC process is in operation during any period of malfunction of the cartridge filters, the permittee shall determine compliance through maintenance of the records required by Item f. under **5. Specific Recordkeeping Requirements below**.

3. Testing Requirements:

- a. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted as required by the Division.
- b. See General Condition G. (d) 2.

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Monthly dry sawdust feed to activation kiln.
- b. Monthly natural gas to drying kiln.
- c. Monthly production of specialty thermal carbon.
- d. Monthly hours of operation of the drying kiln.
- e. Monthly hours of operation of the screening/grinding/packaging operations.
- f. Monthly hours of operation of the specialty thermal carbon process.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**EP030 Woodbase Drying/Screening/Grinding/Packaging: (continued)**

- g. The permittee shall maintain, calibrate and operate according to manufacturer's specification, a Triboguard detector (or equivalent) to monitor the performance of the drying kiln bag house. The detector shall be capable of detecting a malfunction or increased particulate matter through the bag house.
- h. The permittee shall maintain, calibrate and operate according to manufacturer's specification, a Triboguard detector (or equivalent) to monitor the performance of the six cartridge filters listed above at EP 030. The detectors shall be capable of detecting a malfunction or increased particulate matter flow through one of the filters.
- i. Pursuant to 40 CFR 64, the following monitoring information is included in the facility CAM plan:
 - 1). Triboelectric monitors are installed in the exhaust of the cartridge filters to measure the performance of the filters and bag house. The triboelectric detectors shall be inspected quarterly and calibrated annually in accordance with NIST standards.
 - 2). Signals from the detectors are continuously monitored by the Distributed Control System (DCS) and trigger an alarm and delayed interlock shuts off the process equipment.
 - 3). The process is shutdown within 6 minutes of activation of a monitoring system alarm.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

- a. Monthly dry sawdust feed to activation kiln.
- b. Monthly natural gas to drying kiln.
- c. Monthly production of specialty thermal carbon.
- d. Monthly hours of operation of the drying kiln.
- e. Monthly hours of operation of the screening/grinding/packaging operations.
- f. Monthly hours of operation of the specialty thermal carbon process.
- g. Records of the set-point at which the Triboguard detector (or equivalent) will activate an alarm indicating a malfunction of the drying kiln bag house or increased particulate flow through the drying kiln bag house.
- h. Records of the set-points at which the Triboguard detectors (or equivalent) will activate an alarm indicating a malfunction in the cartridge filters or increased particulate matter flow through the cartridge filters on the Grinding/Screening/Packaging Operations and the Specialty Thermal Carbon Process. The setpoints of the detector on the Grinding/Screening/Packaging filter shall be correlated to the maximum emission limit for particulate matter (including PM₁₀) for the Screening/Grinding/Packaging Operations operating alone (1.5 lb/hr) **AND** the Specialty Thermal Carbon Process *and* the Screening/Grinding/Packaging Operation operating concurrently ($3.2 \text{ lb/hr} + 1.5 \text{ lb/hr} = 4.7 \text{ lb/hr}$).
- i. During all periods of malfunction of the bag house, if the drying kiln is in operation; **OR** during periods of malfunction of the cartridge filter, if the screening/grinding/packaging processes are in operation; **OR** during periods of malfunction of the STC cartridge filters, if the STC process is in operation, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from Stack B;

If visible emissions are not observed, then no further observations or records are

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP030 Woodbase Drying/Screening/Grinding/Packaging: (continued)

required. If visible emissions are observed, the permittee shall perform the following:

- ii. The permittee shall perform a Method 9 reading for Stack B. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee, certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.
- j. All maintenance activities performed at the bag house and cartridge filters.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions :

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP040 Woodbase Bulk Storage Tanks and Rail Shipment (Vented to Stack C)

Emission Sources:

Three (3) bulk storage tanks and rail shipment process operations

Control Devices:

Bulk storage tanks and rail shipment operations - Cartridge filter (PM₁₀)

APPLICABLE REGULATIONS:

- a. 401 KAR 51:017 applies to the PM₁₀ emissions.
- b. 401 KAR 59:010 applies to the visible emissions.
- c. 40 CFR 64, Compliance Assurance Monitoring (CAM) applies to PM₁₀ emissions.

1. Operating Limitations :

None.

2. Emission Limitations :

- a. Mass Emission (BACT) Limit - Pursuant to Regulation 401 KAR 51:017, Section 9 (3), emissions of particulate matter less than 10 microns (PM₁₀) shall not exceed 0.50 lbs/hr (30-day average).
- b. Opacity Limit - Pursuant to Regulation 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack C shall not equal or exceed 20 percent.

Compliance Demonstration Method:

a. Mass Emission Limit:

i. Actual PM₁₀

Emission Rate (lbs/hr) = [Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds PM₁₀ per ton of product produced)] x [Tons of dry product produced in the month] ÷ [Hours of operation in the month]

- ii. The cartridge filter shall control particulate emissions and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times any of the emissions sources [bulk storage tanks and rail shipment process operations] listed above are in operation. The bulk storage tanks and rail shipment process operations are considered in operation any time powdered carbon is being conveyed to or from the bulk storage tanks.

b. Opacity Limit:

- i. Compliance with the opacity limitation is demonstrated by normal operation of the cartridge filter.
- ii. If the bulk storage tanks and rail shipment processes are in operation during any period of malfunction of the cartridge filter, the permittee shall determine compliance through visual inspection, EPA Method 9 testing if emissions are seen, and recordkeeping as required by Item d. under **5. Specific Recordkeeping Requirements below.**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP040 Woodbase Bulk Storage Tanks and Rail Shipment (Continued)

3. Testing Requirements:

- a. Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.
- b. See General Condition **D.1.**

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Monthly amount of powdered carbon production (in tons/month or equivalent).
- b. Monthly hours of operation of the grinding process (i.e., roller mill).
- c. The permittee shall maintain, calibrate and operate according to manufacturer's specification, a Triboguard detector (or equivalent) to monitor the performance of the cartridge filter listed above at EP 040. The detectors shall be capable of detecting a malfunction or increased particulate matter flow through the filter.
- d. Pursuant to 40 CFR 64, the following monitoring information is included in the facility CAM plan:
 - 1). Triboelectric monitors are installed in the exhaust of the cartridge filters to measure the performance of the filters and bag house. The triboelectric detectors shall be inspected quarterly and calibrated annually in accordance with NIST standards.
 - 2). Signals from the detectors are continuously monitored by the Distributed Control System (DCS) and trigger an alarm and delayed interlock shuts off the process equipment.
 - 3). The process is shutdown within 6 minutes of activation of a monitoring system alarm.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

- a. Monthly amount of powdered carbon production (in tons/month or equivalent).
- b. Monthly hours of operation of the grinding process (i.e., roller mill).
- c. Continuous records of the differential static pressure across the cartridge filter (on strip chart recorder, electronic data acquisition system or equivalent).
- d. During all periods of malfunction of the cartridge filter, if the bulk storage tanks and rail shipment processes are in operation, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from Stack C;
If visible emissions are not observed, then no further visual observations or recordkeeping is required. If visible emissions are observed, the permittee shall perform the following:
 - ii. The permittee shall perform a Method 9 reading for Stack C. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP040 Woodbase Bulk Storage Tanks and Rail Shipment (Continued)

- e. All maintenance activities performed at the cartridge filter.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions :

For the cartridge filter:

- a. The cartridge filter shall be operated at a minimum differential pressure drop of 1 inch of water (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average minimum pressure drop across the cartridge filter was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP070 Catalyst Plant Pre-heaters and Reactors (vented through common Stack A):

Emissions Sources:

- a. Two (2) Pre-heaters (P1, P2) - process emissions
- b. Three (3) Reactors (R1, R2, R3) - process emissions
- c. Natural gas fired Afterburner (6 mmBtu/hr) - natural gas combustion emissions

Control Devices:

- a. Venturi Absorber Scrubber (PM₁₀) - pre-heater P1 only
- b. Venturi Absorber Scrubber (PM₁₀) - pre-heater P2 only
- c. Afterburner (VOC, CO) - pre-heaters and reactors
- d. Rotoclone Scrubber (PM₁₀) - pre-heaters and reactors
- e. Reverse Jet Scrubber (PM₁₀) - pre-heaters and reactors

Other Devices:

Afterburner - Low NOx burner

APPLICABLE REGULATIONS:

- a. 401 KAR 51:017 applies to carbon monoxide, nitrogen oxides, volatile organic compounds (VOC), and PM₁₀ emissions.
- b. 401 KAR 59:010 applies to the visible emissions.
- c. 40 CFR 64, Compliance Assurance Monitoring (CAM) applies to PM₁₀, CO, and VOC emissions

1. Operating Limitations :

None

2. Emission Limitations :

- a. Mass Emission (BACT) Limit - Pursuant to 401 KAR 51:017, Section 8:
 - i. Emissions of carbon monoxide shall not exceed 19.29 lb/hr.
 - ii. Emissions of nitrogen oxides shall not exceed 6.60 lb/hr.
 - iii. Emissions of particulate emissions (including PM₁₀) shall not exceed 2.19 lb/hr.
 - iv. Emissions of volatile organic compounds (VOC) shall not exceed 3.97 lb/hr.
 - v. Emissions of NOx from the afterburner shall not exceed 0.10 lb/mmBtu.
 - vi. The above limits are based on a 30-day average.
- b. Opacity Limit - Pursuant to Regulation 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack A shall not equal or exceed 20 percent.

Compliance Demonstration Method:

a. Mass Emission Limit:

- i. For CO/VOC/NOx/PM₁₀: Actual Emission
 Rate (lbs/hr) = [Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds CO/VOC/NOx/PM₁₀ per ton of material processed)] x [Tons of material processed in the month] ÷ [Hours of operation in the month]

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

- ii. For NO_x from the afterburner: Actual Emission Factor (lbs/mmBtu) = Compliance based on AP-42 emission factor for combustion of natural gas.
 - iii. The venturi absorber scrubbers shall control emissions of PM₁₀ and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all time the catalyst pre-heaters are in operation. A catalyst pre-heater (P1 or P2) is considered in operation any time carbon is being conveyed to or from the pre-heater.
 - iv. The afterburner shall control emissions of volatile organic compounds and carbon monoxide and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all time the pre-heaters and reactors are in operation. The pre-heaters and reactors are considered in operation any time carbon is being fed to the pre-heaters or reactors.
 - v. The rotoclone and reverse jet scrubbers shall control emissions of PM₁₀ and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the pre-heaters and reactors are in operation.
- b. Opacity Limit:
- i. Compliance with the opacity limitation is demonstrated by normal operation of the venturi absorber scrubbers, rotoclone scrubber, and reverse jet scrubber.
 - ii. If the pre-heaters or reactors are in operation during any period of malfunction of the venturi absorber scrubbers, rotoclone scrubber, or reverse jet scrubber, the permittee shall determine compliance through visual inspection, EPA Method 9 testing if emissions are seen, and recordkeeping required by Item d. under **5. Specific Recordkeeping Requirements below.**
3. Testing Requirements:
- a. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted as required by the Division.
 - b. See General Condition **D.1.**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP070 Catalyst Plant Pre-heaters and Reactors: (continued)

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Monthly carbon feed rate to the pre-heaters.
- b. Monthly hours of operation of the catalyst pre-heaters.
- c. The permittee shall maintain, calibrate and operate according to manufacturer's specification, monitoring devices for the continuous measurement of:
 - i. The differential static pressure across each venturi absorber scrubber.
 - ii. The temperature of the combustion chamber in the afterburner.
 - iii. The liquid flow rate to the rotoclone scrubber.
 - iv. The differential static pressure across the reverse jet scrubber.
- d. Pursuant to 40 CFR 64, the following monitoring information is included in the facility CAM plan:
 - i. The afterburner outlet temperature is the indicator and measured using thermocouples with a temperature range from -328 to 2300°F. The temperature of the thermal incinerator designed to be equal to or greater than 1600°F for VOC and CO over three hour averaging period.
 - ii. Pursuant to 40 CFR 64.3(b), the thermocouples will measure afterburner outlet temperature at 1-minute intervals. The Distributed Control System (DCS) records the 1-minute sample data and calculates the rolling 3-hour averages for each minute. The minimum design tolerance of the thermocouple is (+) or (-) 3.96°F or (+) or (-) 0.75% of the temperature measured in degrees Celsius, whichever is greater. The data collection system (DCS) has a minimum resolution of 0.2°F. Accuracy of the thermocouples will be verified weekly by referencing the readings on a second, or redundant, thermocouple probe in the same location.
 - iii. All thermocouples will be calibrated to their working range, traceable to NIST standards, and replaced as required. A 3-hour rolling averaging period, excluding any periods of process downtime will be used to assess compliance with the indicator range.

5. Specific Recordkeeping Requirements:

The permittee shall keep records of the following information:

- a. Monthly carbon feed rate to the pre-heaters.
- b. Monthly hours of operation of the catalyst pre-heaters.
- c. Continuous records of the following information:
 - i. The differential static pressure across each venturi absorber scrubber.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP070 Catalyst Plant Pre-heaters and Reactors: (continued)

- ii. The temperature of the combustion chamber in the afterburner.
 - iii. The liquid flow rate to the rotoclone scrubber.
 - iv. The differential static pressure across the reverse jet scrubber.
- d. During all periods of malfunction of either the venturi absorber scrubbers, rotoclone scrubber, or reverse jet scrubber, if the pre-heaters or reactors are in operation, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from Stack A;

If visible emissions are not observed during a malfunction, then no further visual observations are required. If visible emissions are observed, the permittee shall perform the following:

- ii. The permittee shall perform a Method 9 reading for Stack A. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.
- e. All maintenance activities performed at the venturi scrubber, packed bed scrubber, afterburner, rotoclone scrubber, and reverse jet scrubber.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions :

For the venturi absorber scrubbers:

- a. Each venturi absorber scrubber shall be operated at a minimum differential pressure drop of 30 inches of water (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across a venturi absorber scrubber was below the minimum specified.

For the afterburner:

- a. The afterburner shall operate at a minimum temperature of 1600°F (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average temperature in the afterburner was below the minimum specified.

For the rotoclone scrubber:

- a. The rotoclone scrubber shall be operated at a minimum liquid flow rate of 8.5 gpm (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average liquid flow rate to the rotoclone scrubber was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP070 Catalyst Plant Pre-heaters and Reactors: (continued)

For the reverse jet scrubber:

- a. The reverse jet scrubber shall be operated at a minimum differential pressure drop of 22 inches of water (3-hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across the reverse jet scrubber was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP080 Catalyst Plant Storage and Feed System, Product Finishing, Storage and Shipping (Vented through common Stack A)

Emission Sources:

Catalyst plant storage process operations
Catalyst plant feed system process operations
Catalyst plant finishing process operations
Catalyst plant storage process operations
Catalyst plant shipment process operations

Control Devices:

Catalyst plant storage - Cartridge filter (PM₁₀)
Catalyst plant feed system -Cartridge filter (PM₁₀)
Catalyst plant finishing, storage, and shipment - Common cartridge filter (PM₁₀)

APPLICABLE REGULATIONS:

- a. 401 KAR 51:017 applies to the PM₁₀ emissions.
- b. 401 KAR 59:010 applies to the visible emissions.
- c. 40 CFR 64, Compliance Assurance Monitoring (CAM) applies to PM₁₀ emissions.

1. Operating Limitations :

None

2. Emission Limitations :

- a. Mass Emission (BACT) Limit - Pursuant to Regulation 401 KAR 51:017, Section 8, emissions of particulate matter (PM₁₀) shall not exceed 1.50 lbs/hr (30-day average).
- b. Opacity Limit - Pursuant to Regulation 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack A shall not equal or exceed 20 percent.

Compliance Demonstration Method:

a. Mass Emission Limit:

- i. For PM₁₀: Actual Emission

Rate (lbs/hr) = $\frac{[\text{Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds PM}_{10} \text{ per ton of product produced)}] \times [\text{Tons of material processed in the month}]}{[\text{Hours of operation in the month}]}$

- ii. The cartridge filters shall control particulate emissions and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times any of the emissions sources [catalyst plant storage, feed system, product finishing, storage and shipment process operations] listed above are in operation. The catalyst plant feed storage system is considered in operation any time carbon is being conveyed to the feed storage system. The feed system is considered in operation any time carbon is being conveyed to or from feed system. The product finishing, storage and shipment process operations are considered in operation any time carbon is being conveyed to or from the

product finishing, storage and shipment process operations

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP080 Catalyst Plant Storage and Feed System, Product Finishing, Storage and Shipping (Vented through common Stack A)

- b. Opacity Limit:
 - i. Compliance with the opacity limitation is demonstrated by normal operation of the cartridge filters.
 - ii. If the catalyst plant storage, feed system, product finishing, storage and shipment processes are in operation during any period of malfunction of the associated cartridge filters, the permittee shall determine compliance through visual inspection, EPA Method 9 testing if emissions are seen, and recordkeeping required by Item e. under **5 Specific Recordkeeping Requirements below**.

3. Testing Requirements:

- a. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.
- b. See General Condition **D.1**.

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Monthly amount of carbon conveyed to pre-heaters (in tons/month or equivalent).
- b. Monthly hours of operation of each process.
- c. The permittee shall maintain, calibrate and operate according to manufacturer's specification, a Triboguard detector (or equivalent) to monitor the performance of the three cartridge filters listed above. The detector shall be capable of detecting a malfunction or increased particulate matter flow through one of the filters.
- d. Pursuant to 40 CFR 64, the following monitoring information is included in the facility CAM plan:
 - 1). Triboelectric monitors are installed in the exhaust of the cartridge filters to measure the performance of the filters and bag house. The triboelectric detectors shall be inspected quarterly and calibrated annually in accordance with NIST standards.
 - 2). Signals from the detectors are continuously monitored by the Distributed Control System (DCS) and trigger an alarm and delayed interlock shuts off the process equipment.
 - 3). The process is shutdown within 6 minutes of activation of a monitoring system alarm.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

- a. Monthly amount of carbon conveyed to the pre-heaters (in tons/month or equivalent).
- b. Monthly hours of operation of each process.
- c. Records of the set point at which the Triboguard detector will activate an alarm indicating a malfunction in the cartridge filters or increased particulate matter flow

through the filters. This set point shall be correlated to the maximum emission limit

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP080 Catalyst Plant Storage and Feed System, Product Finishing, Storage and Shipping (Vented through common Stack A)

for particulate matter (PM₁₀) for this emission point (1.50 lbs/hr).

- d. All maintenance activities performed at each cartridge filter.
- e. During any periods of malfunction of the cartridge filters, if the catalyst plant storage, feed system, product finishing, storage and shipment processes are in operation, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from Stack A;

If visible emissions are not observed, then no further observations or records are required. If visible emissions are observed, the permittee shall perform the following:

- ii. The permittee shall perform a Method 9 reading for Stack A. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions :

The permittee shall operate a Triboguard detector (or equivalent) whenever one or more of the cartridge filters listed above is in operation.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP150 Lime Storage and Feed System (Vented through common Stack B)

Emission Sources:

Lime storage and feed system process operations

Control Devices:

Lime storage and feed system process operations - Cartridge filter (PM₁₀)

APPLICABLE REGULATIONS:

- a. 401 KAR 51:017 applies to the PM₁₀ emissions.
- b. 401 KAR 59:010 applies to the visible emissions.

1. Operating Limitations :

None

2. Emission Limitations :

- a. Mass Emission (BACT) Limit - Pursuant to Regulation 401 KAR 51:017, Section 8, emissions of particulate matter (PM₁₀) shall not exceed 0.30 lbs/hr (30-day average).
- b. Opacity Limit - Pursuant to Regulation 401 KAR 59:010, Section 3 (1), the opacity of visible emissions from Stack B shall not equal or exceed 20 percent.

Compliance Demonstration Method:

- a. Mass Emission Limit:
 - i. For PM₁₀: Actual Emission
$$\text{Rate (lbs/hr)} = \frac{[\text{Controlled emission factor from the application or derived from the last state witnessed stack test (in pounds PM}_{10} \text{ per ton of product produced)}] \times [\text{Tons of lime used in the month}]}{[\text{Hours of operation in the month}]}$$
 - ii. The cartridge filter shall control particulate emissions and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times any of the emissions sources [lime storage and feed system processes] listed above are in operation. The lime storage and feed system is considered in operation any time lime is being conveyed into the lime storage tank.
- b. Opacity Limit:
 - i. Compliance with the opacity limitation is demonstrated by normal operation of the cartridge filter.
 - ii. If the lime storage and feed system processes are in operation during any period of malfunction of the cartridge filter, the permittee shall determine compliance through visual inspection, EPA Method 9 testing if emissions are seen, and recordkeeping required by Item d. under **5. Specific Recordkeeping Requirements below.**

3. Testing Requirements:

- a. Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.
- b. See General Condition **D.1.**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP150 Lime Storage and Feed System (Continued)

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

- a. Monthly amount of lime received (in tons/month or equivalent).
- b. Monthly hours of operation.
- c. The permittee shall maintain, calibrate and operate according to manufacturer's specification, a monitoring device for the continuous measurement of the differential static pressure across the cartridge filter.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

- a. Monthly amount of lime received (in tons/month or equivalent).
- b. Monthly hours of operation.
- c. Continuous records of the differential static pressure across the cartridge filter (on strip chart recorder, electronic data acquisition system or equivalent).
- d. During all periods of malfunction of the cartridge filter, if the lime storage and feed system processes are in operation, a daily (calendar day) log of the following information shall be kept:
 - i. Whether any air emissions were visible from Stack B;
If visible emissions are not observed, then no further observations or records are required. If visible emissions are observed, the permittee shall perform the following:
 - ii. The permittee shall perform a Method 9 reading for Stack B. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification.
- e. All maintenance activities performed at the cartridge filter.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions :

For the cartridge filter:

- a. The cartridge filter shall be operated at a minimum differential pressure drop of 1 inch of water (3hour average).
- b. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across the cartridge filter was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**EP001 – Steam Generating Boiler (Leased)**

During periods of extended steam outage from the New Page Paper Mill, the facility may lease a temporary boiler to provide steam. This boiler will be rated not in excess of 60 mmBtu/hr, operated no more than 180 days in any calendar year, and be subject to the following conditions.

Description:

EP001 is a leased boiler with a rated capacity of no more than 60 mmBtu/hr. Natural gas is utilized in the boiler to produce process heat. Propane may be used as a back-up fuel.

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exchangers, applicable to affected facilities with a capacity of 250 million BTU per hour heat input or less commenced after August 9, 1972, limits particulate and sulfur dioxide emissions.

1. Operating Limitations:

None

2. Emission Limitations:

- a. Section 4(1)(c) limits emissions of **particulate matter** to no more than:

$$PM = 0.9634 \times (\text{total heat input capacity in mmBtu/hr})^{-0.2356}$$

- b. Section 4(2) limits visible emissions to a maximum of **20% opacity** except for emissions occurring during cleaning of the fire box, blowing of soot, and building of a new fire.

- i. While cleaning of the fire box or blowing of soot is being done, visible emissions are limited to a maximum of 40% opacity for not more than 6 consecutive minutes in any 60 consecutive minutes.
- ii. There is no limit to visible emissions opacity while building a new fire provided a manufacturer recommended method is used and the manufacturer recommended time frame for bringing the boiler up to operating conditions is not exceeded.

- c. Section 5(1)(c) limits emissions of any gas which contains **sulfur dioxide** to no more than :

$$SO_2 = 7.7223 \times (\text{total heat input capacity in mmBtu/hr})^{-0.4106}$$

Compliance Demonstration Method:

Compliance with the particulate, SO₂, and opacity limits are determined by the combustion of only natural gas or propane.

3. Testing Requirements:

N/A

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP001 – Steam Generating Boiler (continued)

4. Specific Monitoring Requirements:

N/A

5. Specific Record Keeping Requirements:

- a. A record of the type of fuel burned shall be maintained.
- b. A log indicating days of operation shall be maintained.
- c. A copy of the manufacturer's operating and maintenance specifications shall be maintained and made available to appropriate Division personnel.
- d. Any operation or maintenance that is less stringent than the manufacturer's minimum recommendation shall be recorded.
- e. Dates and descriptions of maintenance shall be recorded.

6. Specific Reporting Requirements:

Refer to Section F.

7. Specific Control Equipment Operating Conditions:

N/A

8. Alternate Operating Scenarios:

N/A

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

Description	Generally Applicable Regulation
1. One (1) 0.5 mmBtu/hr natural gas fired heater located at the natural gas pressure reducing station.	None
2. Odorant flare	None
3. Three (3) 1,500 gallon polymer storage tanks	None
4. One (1) 285 gallon diesel storage tank	None
5. One (1) 550 gallon diesel storage tank	None
6. Five (5) laboratory fume hoods located in plant Quality Control Laboratory. All fume hoods routed to common vent.	None
7. One (1) 182 hp emergency diesel powered firewater pump operated less than 500 hours/year	None
8. Twelve (12) 60,000 Btu/hour each Kerosene fired portable heaters.	None
9. Six (6) 60,000 Btu/hr each natural gas fired heaters. located in Waste Water Treatment Area.	None
10. One (1) 550-gallon gasoline storage tank	None
11. One (1) 1,000 gallon diesel storage tank	None
12. One (1) 1,000 gallon kerosene storage tank	None
13. One (1) 5,000 gallon mixed acid tank(phosphoric acid)	None
14. One (1) 12,000 gallon virgin acid tank (phosphoric acid)	None
15. One (1) 7,000 gallon filter press feed tank(phosphoric acid)	None
16. One (1) 21,000 gallon caustic storage tank (NAOH)	None
17. One (1) 4,300 gallon scrubber tank (<10% HCl)	None
18. One (1) 12,900 gallon acid storage tank (<35% HCl)	None

SECTION C - INSIGNIFICANT ACTIVITIES (Continued):

- | | |
|--|-------|
| 19. One (1) 550 gallon Gasoline Storage Tank | None |
| 20. One (1) Rental Air Compressor | None |
| 21. One (1) Rental Electric Generator | None |
| 22. One (1) Rental Hydraulic/Trash Pump | None. |

SECTION D -SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.
2. PM, PM₁₀, CO, NO_x, VOC, and SO₂ emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.
3. Source EP020 includes two natural gas burners. One supplying energy to the Activation Kiln and the second supplying auxiliary energy to the Afterburner. The Activation Kiln burner is rated at 70 mmBtu/hour and the Afterburner burner is rated at 130 mmBtu/hour. The PSD NO_x burner limits are:

Activation Kiln: 0.130 lb/mmBtu

Afterburner: 0.30 lb/mmBtu

Compliance with the NO_x burner limits will be done in aggregate by comparing the calculated NO_x burner factor against the effective NO_x limit. The calculated NO_x burner factor is as follows:

$$\text{i. Calculated Factor} = \frac{\text{NO}_x \text{ emissions (lb/hr) during compliance test}}{N_T}$$

Where: $N_T = N_{AK} + N_{AB}$

N_{AK} = Average natural gas to Activating Kiln during compliance test, mmBtu/hour

N_{AB} = Average natural gas to Afterburner during compliance test, mmBtu/hour

$$\text{ii. Effective Limit} = 0.13(N_{AK}/N_T) + 0.30(N_{AB}/N_T)$$

The plant is considered in compliance with the burner limits if the "Calculated Factor" is less than or equal to the "Effective Limit".

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
 - a. Date, place as defined in this permit, and time of sampling or measurements;
 - b. Analyses performance dates;
 - c. Company or entity that performed analyses;
 - d. Analytical techniques or methods used;
 - e. Analyses results; and
 - f. Operating conditions during time of sampling or measurement.
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
3. In accordance with the requirements of Regulation 401 KAR 50:035, Permits, Section 7(2)(c) the permittee shall allow the Cabinet or authorized representatives to perform the following:
 - a. Enter upon the premises where a source is located or emissions-related activity is conducted, or where records are kept;
 - b. Have access to and copy, at reasonable times, any records required by the permit:
 - i. During normal office hours, and
 - ii. During periods of emergency when prompt access to records is essential to proper assessment by the Cabinet;
 - iii. The Cabinet or authorized representatives will allow the facility reasonable time to collect and/or download the required records.
 - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times shall include, but are not limited to the following:
 - i. During all hours of operation at the source,
 - ii. For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
 - iii. During an emergency; and
 - d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements. Reasonable times shall include, but are not limited to the following:
 - i. During all hours of operation at the source,
 - ii. For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
 - iii. During an emergency.

SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V) 1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.
7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within *30 days*. Other deviations from permit requirements shall *be included in the semiannual report required by Section F.6* [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
 - a. Identification of the term or condition;
 - b. Compliance status of each term or condition of the permit;

SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

- c. Whether compliance was continuous or intermittent;
- d. The method used for determining the compliance status for the source, currently and over the reporting period.
- e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
- f. The certification shall be postmarked by January 30th of each year.
- g. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Paducah Regional Office
130 Eagle Nest Drive
Paducah, KY 42003

U.S. EPA Region 4
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

SECTION G - GENERAL CONDITIONS**(a) General Compliance Requirements**

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].
2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
 - a. If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
 - b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
 - c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].
11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Environmental and Public Protection or any other federal, state, or local agency.
13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].
14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].
15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

SECTION G - GENERAL PROVISIONS (CONTINUED)

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
 - a. Applicable requirements that are included and specifically identified in the permit and
 - b. Non-applicable requirements expressly identified in this permit.
17. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least Thirty (30) days prior to the test.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].
2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

SECTION H - ALTERNATE OPERATING SCENARIOS

None.

SECTION I - COMPLIANCE SCHEDULE

None.